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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,978	11/14/2003	Michael B. Yaffe	01997/545003	5853

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CLARK & ELBING LLP  
101 FEDERAL STREET  
BOSTON, MA 02110

EXAMINER
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STEADMAN, DAVID J

ART UNIT	PAPER NUMBER
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1656

MAIL DATE	DELIVERY MODE
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08/06/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/713,978

Applicant(s)

YAFFE ET AL.

Examiner

David J. Steadman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2007 and 18 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13, 17-25, 27-36 and 39-44 is/are pending in the application.
- 4a) Of the above claim(s) 2-13, 17-25 and 27-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 39-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 and 11 May 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Status of the Application***

- [1]** Claims 1-13, 17-25, 27-36, and 39-44 are pending in the application.
- [2]** Applicant's amendment to the claims, filed on 5/11/07, is acknowledged. This listing of the claims replaces all prior versions and listings of the claims.
- [3]** Applicant's amendments to the specification, abstract, and drawing figures, filed on 5/11/07, are acknowledged.
- [4]** Receipt of a substitute sequence listing in computer readable form (CRF), a paper copy thereof, a statement of their sameness, a statement that no new matter has been added to the specification by the paper copy of the sequence CRF, and an amendment directing entry of the substitute sequence listing paper copy into the specification, all filed on 5/18/07, is acknowledged.
- [5]** Applicant's arguments filed on 5/11/07 in response to the Office action mailed on 12/6/06 have been fully considered and are deemed to be persuasive to overcome at least one of the rejections and/or objections previously applied. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn.
- [6]** The text of those sections of Title 35, U.S. Code not included in the instant action can be found in a prior Office action.

### ***Election/Restriction***

- [7]** Claims 2-13, 17-25, and 27-36 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable

generic or linking claim. Election was made without traverse in the reply filed on 10/20/06.

***Claim Rejections - 35 USC § 112, Second Paragraph***

**[8]** The rejection of claim 1 under 35 U.S.C. 112, second paragraph, as being confusing because Table 5 fails to disclose residues His-538, Lys-540, Trp-414, or Leu-491 is withdrawn in view of applicant's clarification, noting that the specification at p. 94, lines 26-27 discloses, "[a] summary of statistics for the structure solution and refinement are shown in Table 5. Residues in bold: His-538, Lys-540, Trp-414, or Leu-491." A review of Table 5 indicates that His-185, Lys-187, Trp-61, or Leu-138 of Table 5 for chains A and B are in boldface. See particularly specification at pp. 100, 111, 118, 132, 143, and 149-150. Thus, the examiner interprets applicant's response to the instant rejection as meaning that residues His-538, Lys-540, Trp-414, or Leu-491 correspond to His-185, Lys-187, Trp-61, or Leu-138 of Table 5, chains A and B and the claims have been examined accordingly.

**[9]** Claims 1 and 39-44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear from claim 1 (claims 39-44 dependent therefrom) as to the scope of atomic coordinates that are encoded on the data storage medium. According to part (ii) of claim 1, the recited program is for "generating a three-dimensional model of *said*

*Polo-box domain* utilizing said coordinates of (i), above” (emphasis added). However, it is noted that the coordinates of (i) do not appear to be limited to atomic coordinates of a 3-D model of a Polo-box domain. It is acknowledged that the atomic coordinates of (i) are *selected from* the atomic coordinates of Table 5, which is asserted to be the coordinates of a Polo-box domain. However, there is no limitation in part (i) of claim 1 that limits the selected coordinates to being the coordinates of a 3-D model of a Polo-box domain. It is suggested that applicant clarify the meaning of the claim. In the interest of advancing prosecution and in accordance with MPEP 2111.01, which states, “[d]uring examination, the claims must be interpreted as broadly as their terms reasonably allow,” part (ii) of claim 1 has been interpreted as generating any 3-D model using the coordinates as recited in part (i), and are not limited to generating a 3-D model of a Polo-box domain, particularly as the limitation of “for generating a model...” in part (ii) is a product-by-process type of limitation.

***Claim Rejections - 35 USC § 112, First Paragraph***

**[10]** The written description rejection of claim 1 under 35 U.S.C. 112, first paragraph, is maintained for the reasons of record and the reasons stated below. The rejection was fully explained in a prior Office action. Newly added claims 39-44 are included in the instant rejection. Thus, claims 1 and 39-44 are rejected herein.

RESPONSE TO ARGUMENT: Addressing the examiner’s discussion of how the term “surrogate” has been interpreted (Office action at pp. 6-7), applicant argues this term is meant to be interpreted as encompassing modified atomic coordinates that

"conserve the relative relationships among the coordinates" and such surrogate coordinates "would generate a three-dimensional model of a Polo-box domain equivalent to the particular model defined by the coordinates of Table 5."

In response to applicant's argument, it is noted that, contrary to applicant's statement, the examiner does not "object[] to the use of the term 'surrogate' as being indefinite." Instead, the Office action is clearly setting forth at pp. 6-7 the examiner's interpretation of the term "surrogate," particularly as the term is not defined in the specification or the claims. While applicant attempts to characterize the term (as noted above), the examiner has broadly, but reasonably interpreted the term in accordance to MPEP 2111 as meaning "substitute" as evidenced by a dictionary definition of the term as noted in the prior Office action. According to MPEP 2163.II.A.1, the examiner should determine what each claim as a whole covers. "Claim construction is an essential part of the examination process. Each claim must be separately analyzed and given its broadest reasonable interpretation in light of and consistent with the written description. See, e.g., *In re Morris*, 127 F.3d 1048, 1053- 54, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997)."

Applicant notes the claim 1 has been amended to recite "at least one atomic coordinate...His538, Lys-540, Trp-414, and Leu-491" (emphasis added) and, as applicant correctly notes, "claim 1 requires a computer having at least the 4 atomic coordinates...from Table 5." It is noted that an "atomic coordinate" has been broadly, but reasonably interpreted as a single x, y, or z coordinate for only a single atom of each of H538, K540, W414, and L491 from Table 5. The claim does *not* require all

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atomic coordinates from each of H538, K540, W414, and L491 from Table 5 and has not been so narrowly interpreted for purposes of examination.

Addressing the merits of the rejection, applicant argues the specification need not disclose additional species of computers “as one skilled in the art would readily understand the genus of computers claimed by the applicants” and that a skilled artisan could easily produce further examples of the genus of computers described by applicant.

Applicant’s argument is not found persuasive. In this case, that a skilled artisan would “readily understand” the genus or that a skilled artisan can generate additional species within a genus is not the standard for evaluating claims for adequate written description under 35 U.S.C. 112, first paragraph. According to MPEP 2163.I.B, “[t]he fundamental factual inquiry is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed. See, e.g., *Vas-Cath, Inc.*, 935 F.2d at 1563-64, 19 USPQ2d at 1117.”

As noted in the prior Office action, the Court of Appeals for the Federal Circuit has held that a “written description of an invention involving a chemical genus, like a description of a chemical species, ‘requires a precise definition, such as by structure, formula [or] chemical name,’ of the claimed subject matter sufficient to distinguish it from other materials.” For claims drawn to a genus, MPEP § 2163 states the written description requirement for a claimed genus may be satisfied through sufficient description of a representative number of species by actual reduction to practice,

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reduction to drawings, or by disclosure of relevant, identifying characteristics, *i.e.*, structure or other physical and/or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the claimed genus. MPEP § 2163 states that a representative number of species means that the species which are adequately described are representative of the entire genus. Thus, when there is substantial variation within the genus, one must describe a sufficient variety of species to reflect the variation within the genus. In this case, the specification discloses only a single species of the genus of claimed computers, *i.e.*, a computer comprising a processor in communication with a memory; said memory having stored therein the structural coordinates of Table 5 and a program for generating a 3-D model of the coordinates. Other than this single disclosed species, the specification fails to disclose any other additional representative species of the claimed genus. As noted above, the genus of atomic coordinates is not even required to have the atomic coordinates of residues His538, Lys540, Trp414, and Leu491, but only a single atomic coordinate, *i.e.*, an x, y, or z coordinate, for each of these residues from Table 5, or a surrogate, *i.e.*, substitute, thereof. In this case, the genus of claimed computers encompasses species that are widely variant with respect to the structural coordinates that are stored thereon, representing the three-dimensional structures of essentially any polypeptide having any function, including polypeptides that are structurally and functionally unrelated to the Polo-box domain of Plk-1 as disclosed in the instant specification, which is undisputed by applicant (Findings of the examiner



which are not challenged are usually accepted as fact. See *In re Kunzmann*, 326 F.2d 424, 140 USPQ 235 (CPA 1964)). Even assuming *arguendo* the resulting variant atomic coordinates and corresponding 3-D structures were limited to a Polo-box domain, it is noted that, while methods of generating homology models were known in the art at the time of the invention, possession may not be shown by merely describing how to obtain members of a recited genus or how to identify their common structural features. See *University of Rochester*, 358 F.3d at 927, 69 USPQ2d at 1895. In this case, the specification fails to disclose even a single homologous structure of the Plk1 having the structural coordinates of Table 5 that maintains the conformation of a biologically-active Plk1 polypeptide. According to MPEP § 2163.II.2.(a).ii), "[f]or inventions in an unpredictable art, adequate written description of a genus which embraces widely variant species cannot be achieved by disclosing only one species within the genus." In this case, the disclosure of the single species as noted above fails to reflect the substantial variation among the species encompassed by the genus of claimed computers.

Given the lack of description of a representative number of species, the specification fails to sufficiently describe the claimed invention in such full, clear, concise, and exact terms that a skilled artisan would recognize that applicant was in possession of the claimed invention.

**[11]** The scope of enablement rejection of claim 1 is rejected under 35 U.S.C. 112, first paragraph, is maintained for the reasons of record and the reasons stated below.

The rejection was fully explained in a prior Office action. Newly added claims 39-44 are included in the instant rejection. Thus, claims 1 and 39-44 are rejected herein.

RESPONSE TO ARGUMENT: Regarding the breadth of the claimed invention, applicant argues the claimed invention is a "well-defined genus of computers easily attainable and understood by one skilled in the art given applicants' present disclosure."

Applicant's argument is not found persuasive. The examiner maintains the position that the specification, while being enabling for a computer comprising a processor in communication with a memory; said memory having stored therein the structural coordinates of Table 5 and a program for generating a 3-D model of the polypeptide represented by the coordinates, does not reasonably provide enablement for all computers as encompassed by the claims.

As noted above, the term "surrogate" has been broadly, but reasonably interpreted in accordance with MPEP 2111 as meaning "substitute." Also as noted above, an "atomic coordinate" has been broadly, but reasonably interpreted as a single x, y, or z coordinate for only a single atom of each of H538, K540, W414, and L491 from Table 5. The claim does *not* require all atomic coordinates from each of H538, K540, W414, and L491 from Table 5 and has not been so narrowly interpreted for purposes of examination. As such, the claims encompass computers having as few as a single x, y, or z coordinate from only a single atom of H538, K540, W414, and L491 from Table 5 and any substitutes thereof, which essentially encompasses the atomic coordinates of any polypeptide having any amino acid sequence and any function.

Regarding the guidance and working examples, applicant argues additional working examples of the claimed invention need not be disclosed as a skilled artisan would readily understand the genus of computers claimed by applicant and could easily produce a computer having altered structural coordinates.

Applicant's argument is not found persuasive. As noted in the prior Office action, the specification provides only a single working example of the claimed computer, *i.e.*, a computer comprising a processor in communication with a memory; said memory having stored therein the structural coordinates of Table 5 and a program for generating a 3-D model of the polypeptide represented by the structural coordinates. This single working example along with the general disclosure of the specification and the state of the prior art, fail to provide the necessary guidance for making the full scope of claimed computers, which encompass atomic coordinate data of essentially any macromolecule. Furthermore, it is noted that the specification fails to provide guidance for using computers that generate 3-D structures of polypeptides other than Plk-1.

Applicant argues the skill in the art of structural biology is high, asserting that given the Table 5 coordinates, a skilled artisan would be able to produce a 3-D protein structure. Addressing the reference of Lambert et al., applicant argues the examiner has taken the noted teaching out of context, asserting that homology models are often favored and used in place of experimentally determined structures and thus, the 3-D models as produced by the computer can be "successfully used" by a skilled artisan. Addressing the reference of Flower, applicant argues a homology model of the Polo-box domain family is not unpredictable, noting that residues corresponding to His538,

Lys540, Trp414, and Leu491 of Plk1 are well-conserved within this family of proteins. According to applicant, problems regarding the positioning of amino acid side chains are decreased in homology models with conserved amino acids. Applicant notes that the Table 5 coordinates correspond to a single domain and therefore the problems associated with fitting multiple domains as noted in the Flower reference are not relevant.

Applicant's argument is not found persuasive. In this case, the examiner acknowledges that given the structural coordinates of Table 5, a skilled artisan would be able to make and use the corresponding 3-D structure, this point is not at issue. What is at issue is whether a skilled artisan can make and use computers comprising *all* atomic coordinates and corresponding 3-D structures as encompassed by the claims, which as noted above, encompasses essentially all atomic coordinates and corresponding 3-D structures of any protein having any amino acid sequence and any function. Further, that homology models may be favored and successfully used as a substitute for a particular target protein is undisputed. However, other than the successful use of the structural coordinates of Table 5, the specification fails to provide guidance for successfully making and using all homology models as broadly encompassed by the claims in accordance with the asserted utility of the claimed invention for identifying modulators of Plk1. Although applicant does not appear to dispute the teachings of Lambert et al. and Flower, applicant attempts to discount these teachings, which provide evidence of the high level of unpredictability in using a homology model in the rational design of drugs. However, other than applicant's own unsupported statements,

applicant provides no objective evidence to the contrary. For example, applicant argues that Lambert et al. is not relevant because Lambert et al. were concerned with identifying specific binding partners of a single member of a conserved family of proteins. However, this would appear to contradict applicant's own argument that the recited residues of His538, Lys540, Trp414, and Leu491 are highly conserved among Polo-box domain proteins and noting that Plk1 belongs to a family of Plk kinases (specification at p. 4, top and instant remarks at p. 19, lines 14-17). Moreover, while applicant asserts the problems of amino acid positioning and fitting together of domains would not be problematic, applicant appears to have disregarded Flower's statement that the reference has named "only a few" of the problems associated with using homology models in the rational design of drugs. As noted above, applicant presents no evidence to the contrary and according to MPEP 716.01(c).II, "[t]he arguments of counsel cannot take the place of evidence in the record. *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965)."

Addressing the quantity of experimentation required, applicant argues that given the instant disclosure, a skilled artisan would be able to make and use a computer of the invention. Applicant argues a skilled artisan would be able to readily upload the Table 5 coordinate data into a computer and using publicly available software generate a 3-D structure of a polypeptide having the structural coordinates. According to applicant, such work is "minor and is performed through the modification of computers."

Applicant's argument is not found persuasive. As noted above, the examiner acknowledges that given the structural coordinates of Table 5, a skilled artisan would be

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able to make and use the corresponding 3-D structure, this point is not at issue. Further, the examiner acknowledges that methods of making homology models was well-known at the time of the invention. However, as noted in the prior Office action, it was *not* routine at the time of the invention to generate the atomic coordinates of any molecule or molecular complex as broadly encompassed by the claims, particularly as the specification fails to provide guidance for making and using all homology models as encompassed by the claims with no expectation that the resulting models maintain a biologically-relevant 3-D conformation of a Plk1 polypeptide.

Thus, in view of the overly broad scope of the claims, the lack of guidance and working examples provided in the specification, the high level of unpredictability as evidenced by the prior art, and the amount of experimentation required, undue experimentation is necessary for a skilled artisan to make and use the entire scope of the claimed invention. Thus, applicant has not provided sufficient guidance to enable one of ordinary skill in the art to make and use the claimed invention in a manner reasonably correlated with the scope of the claims. The scope of the claims must bear a reasonable correlation with the scope of enablement (*In re Fisher*, 166 USPQ 19 24 (CCPA 1970)). Without sufficient guidance, determination of having the desired characteristics is unpredictable and the experimentation left to those skilled in the art is unnecessarily, and improperly, extensive and undue. See *In re Wands* 858 F.2d 731, 8 USPQ2nd 1400 (Fed. Cir, 1988).

***Claim Rejections - 35 USC § 102***

[12] The rejection of claim 1 under 35 U.S.C. 102(b) as being anticipated by Armistead et al. (US Patent 5,978,740) is maintained for the reasons of record and the reasons stated below. The rejection was fully explained in a prior Office action. Claims 39-44 are included in the instant rejection. Thus, claims 1 and 39-44 are rejected herein.

RESPONSE TO ARGUMENT: Applicant argues the Armistead et al. reference fails to disclose the claimed computer, particularly as “[t]he ‘740 patent clearly fails to disclose one or more coordinates from Table 5 *for each* of...His-538, Lys-540, Trp-414, and Leu-491” (emphasis original).

Applicant’s argument is not found persuasive. The examiner maintains the position that Armistead et al. anticipates the claimed computer. It is noted that the claims are not so limited as require “one or more coordinates from Table 5 *for each* of...His-538, Lys-540, Trp-414, and Leu-491,” but instead encompass “surrogate” coordinates, which as noted above, have been broadly, but reasonably interpreted as substitute coordinates as evidenced by a dictionary definition of the term (prior Office action at p. 6, bottom). In view of this broad, but reasonable interpretation of “surrogate,” the examiner maintains that the computer of Armistead et al. is encompassed by the claims.

***Claim Rejections - 35 USC § 103***

[13] The rejection of claim 1 under 35 U.S.C. 103(a) as being unpatentable over Armistead et al. (US Patent 5,978,740) in view *In re Gulack* 217 USPQ 401 (Fed. Cir.

1983) and *In re Ngai* 70 USPQ2d 1862 (Fed. Cir. 2004) is maintained for the reasons of record and the reasons stated below. The rejection was fully explained in a prior Office action. Claims 39-44 are included in the instant rejection. Thus, claims 1 and 39-44 are rejected herein.

RESPONSE TO ARGUMENT: Applicant argues the rejection is obviated by amendment to claim 1 require the atomic coordinates be encoded on a data-storage medium. Applicant quotes MPEP 2106.01, which states, “[a] claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships...” Apparently (though not expressly stated), applicant takes the position that because the data is encoded on a data-storage medium, it is functional descriptive material and thus, *In re Gulack* 217 USPQ 401 (Fed. Cir. 1983) and *In re Ngai* 70 USPQ2d 1862 (Fed. Cir. 2004) do not apply.

Applicant's argument is not found persuasive. The examiner maintains the position that the recited atomic coordinates are non-functional descriptive material. While the examiner acknowledges applicant's noted portion of MPEP 2106.01 as stated above. However, it is noted that this statement is directed to a computer-readable medium encoded with a *data structure*, which is distinguished from the structural coordinate data of Table 5. According to MPEP 2106.01, “[d]escriptive material can be characterized as either ‘functional descriptive material’ or ‘nonfunctional descriptive material.’ In this context, ‘functional descriptive material’ consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of ‘data structure’ is ‘a physical or logical relationship among



data elements, designed to support specific data manipulation functions.' The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) 'Nonfunctional descriptive material' includes but is not limited to music, literary works, and a compilation or mere arrangement of data." For example, according to MPEP 2106.01, the "data structure" of *In re Lowry* 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994), when stored on a computer readable medium, increased computer efficiency.

In this case, the atomic coordinate data of Table 5 is "a compilation or mere arrangement of data" and there is no functional interrelationship between the data of Table 5 and the computer upon which it is stored. MPEP § 2106.IV.B.1.(b) states, "[w]here certain types of descriptive material, such as music, literature, art, photographs and mere arrangements or compilations of facts or data, are merely stored so as to be read or outputted by a computer without creating any functional interrelationship, either as part of the stored data or as part of the computing processes performed by the computer, then such descriptive material alone does not impart functionality either to the data as so structured, or to the computer." In this case, the structural coordinate data of Table 5, while descriptive as being Cartesian coordinates of the atoms of Plk1, are stored so as to be read and outputted without creating a functional interrelationship with the computer. As such, the data of Table 5 are non-functional descriptive material, and in accordance with the holding of *In re Gulack*, the Table 5 data has not been accorded patentable weight. Put another way, the structural coordinate data do not appear to affect how the computer performs or functions – the computer would appear to function

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in the same way regardless of whether the data is stored in the computer's machine-readable data storage medium. The examiner's position that the data of Table 5 is non-functional descriptive material is further supported by MPEP 2106.VI, which provides "[c]ommon situations" that involve nonfunctional descriptive material, including "a computer-readable storage medium that differs from the prior art solely with respect to nonfunctional descriptive material, such as music or a literary work, encoded on the medium" and "a computer that differs from the prior art solely with respect to nonfunctional descriptive material that cannot alter how the machine functions (i.e., the descriptive material does not reconfigure the computer)."

For reasons set forth above, the data of Table 5 are non-functional descriptive material and in view of the teachings of the cited prior art and in view of the Court's holding in *In re Gulack* and *In re Ngai*, the claimed computer would have been obvious to one of ordinary skill in the art at the time of the invention. See also Case 2 of Annex 3: Comments of the USPTO at pp. 63-64 of the Trilateral Project WM4 Comparative studies in new technologies, Theme: Comparative study on "protein 3-dimensional (3-D) structure related claims".

### ***Conclusion***

**[14]** Status of the claims:

Claims 1-13, 17-25, 27-36, and 39-44 are pending.

Claims 2-13, 17-25, and 27-36 are withdrawn from consideration.

Claims 1 and 39-44 are rejected.

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No claim is in condition for allowance.


Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Steadman whose telephone number is 571-272-0942. The examiner can normally be reached on Monday to Friday, 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathleen Kerr Bragdon can be reached at 571-272-0931. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
David J. Steadman, Ph.D.  
Primary Examiner  
Art Unit 1656